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ABSTRACT

The notions of categorical selection (c-selection) and semantic selection (s-selection) as outlined in recent research on generative grammar are discussed. The first section addresses the type of selectional constraint imposed on English small clauses (e.g., "John considers Mary smart "). In the second section, it is suggested that the constraint on small clauses has some crucial implications for problems of syntax and semantics involving cleft sentences (e.g., "It was under the chair that I left my coat"), "though" attraction (e.g., " Though John was busy , he finished his homework"), and the verb "seem" (e.g., "Mary seems honest "). It is concluded that a promising solution to the question of how to characterize the distributions of certain types of constructions lies in semantic rather than categorical selection. (MSE)

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A NOTE ON SEMANTIC SELECTION*

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0. Introduction

This paper deals briefly with what is sometimes called categorial selection (c-selection) and semantic selection (s-selection) in recent studies of generative grammar. In section 1 I will take up the question of what type of selectional constraint is imposed on English small clauses and will present what seems to me to be an appropriate answer, after briefly examining previous studies of this issue. In section 2 I will suggest that the constraint on small clauses has some crucial implications for some problems of syntax and semantics involving cleft sentences, *Though* Attraction, etc.

1. The Problem of Small Clause

Stowell (1981) proposes an interesting analysis of the syntax of small clauses (SC) like those italicized in (1).

(1) John considers *Mary smart*.

According to Stowell, a SC is analyzed as a projection of its head or predicate, which is italicized in (2).

(2) John considers [$_{AP}$ Mary [$_{A'}$ *smart*]]

The strongest empirical argument for this analysis, I believe, comes from the restricted selection of SCs by higher predicates.

(3)a. I consider [$_{AP}$ him [$_{A'}$ honest]].
b. *I consider [$_{PP}$ that sailor [$_{P'}$ off my ship by midnight]]
(4)a. I expect [$_{PP}$ that sailor [$_{P'}$ off my ship by midnight]]
b. *I expect [$_{AP}$ him [$_{A'}$ honest]].

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This distribution can be expressed straightforwardly under Stowell's analysis, which requires that the verb *consider* select AP, not PP, and the verb *expect* have exactly the opposite selectional restrictions.

This analysis would provide a simple account for the distribution of SCs in (3)-(4) if it could be sustained, but unfortunately it seems that it cannot be. For instance, Stowell's assumption that the distribution of SCs should be expressed by purely categorial terms such as AP, PP, etc. is fairly directly contradicted, as shown in Kitagawa (1985), by the behavior of SCs containing predicates different from those in (3)-(4).

(5)a. *The doctor considers [$_{AP}$ that sailor [$_{A'}$ dead by tomorrow]]
b. Unfortunately, our pilot considers [$_{PP}$ that island [$_{P'}$ off the route]]
(6)a. *I expect [$_{PP}$ that island [$_{P'}$ off the route]]
b. I expect [$_{AP}$ that man [$_{A'}$ dead by tomorrow]] (Mafia talk)

As this paradigm indicates, both PP and AP, contrary to Stowell's claim, seem to happily participate in SCs preceded by *consider* and *expect*. This leads us to suspect that the correct restriction may not be stated in purely categorial terms and in turn raises a question as to what sort of restrictions govern the distribution of SCs. Kitagawa suggests that the correct restrictions are semantic in nature, which means that *consider* selects a complement expressing 'state of affairs' (cf. (5a)), while *expect* selects a complement expressing 'change of state' (cf. (6b)) (See Nakau (1985) for the discussion of these types of predicates, which he refers to as STATE and PROCESS respectively. According to Nakau, predicates are exhaustively divided into those that express ACTION, STATE and PROCESS on principled grounds.) [1]

The following paradigm would provide some supporting evidence for the semantic analyis over categorial analyis with respect to the distribution of SC. [2]

(7)a. *John wants [$_{AP}$ Mary [$_{A}$· honest]]
b. John wants [$_{AP}$ Mary [$_{A}$· dead by tomorrow]]
c.??John wanted [$_{PP}$ the island [$_{P}$· off the route]]
d. John wanted [$_{PP}$ the sailor [$_{P}$· off my ship by midnight]]

(8)a. John prefers [$_{AP}$ Mary [$_{A}$· honest]]
b. *John prefers [$_{AP}$ Mary [$_{A}$· dead by tomorrow]]
c. John prefers [$_{PP}$ the island [$_{P}$· off the route]]
d.??John prefers [$_{PP}$ the sailor [$_{P}$· off my ship by midnight]]

As the contrast between (7a) and (7b), for instance, indicates, the distribution of SCs involving *want* would not be correctly captured in purely categorial terms. Our semantically based analysis, on the other hand, seems to account straightforwardly for this otherwise mysterious behavior of SCs; i.e. *want* selects complements expressing 'change of state' or PROCESS (cf. (7b) and (7d)) and *prefer* selects those that denotes 'state of affairs' or STATE (cf (8a) and (8c)).

Assuming that the semantic approach on the restrictions on SC along this line is on the right track, I would like to discuss some implications of this type of semantic constraint in regard to problems of cleft sentences. *Though* Attraction, etc. that have defied proper characterization for many years. (I refer the reader to Endo (1988) and Appendix for some apparent problems of our semantic approach and what seem to me to be appropriate answers to the problem).

2. Cleft Sentences

Stowell (1981), who attributes the observation to Jackendoff (1977), claims that the phrases that may be focused in cleft sentences are NP and PP.

(9)a. It was [$_{NP}$ your book about double helix] that I wanted.
b. It was [$_{PP}$ under the chair] that I ~~think~~ left my coat.
c. *It was [$_{VP}$ go home early] that Jane did.
d. *It was [$_{AP}$ very angry at me] that John was.

This restriction, he further argues, may be unified in terms of Chomsky's feature system in (10), i.e. the phrases that may be focued in cleft sentences are characterized as those that are defined by [-V].

(10)

	NP	AP	VP	PP
N	+	+	-	-
V	-	+	+	-

However, while this purely categorial analysis, along with Chomsky's feature system, will account for the paradigm in (9), there are other cases which ~~Culicover~~ Stowell does not discuss which would not be handled correctly by this analysis. Consider, for instance, the following cleft sentences, where the predicates discussed in the previous section are substituted for the phrases focued in (9).

(11)a. It is [$_{PP}$ off my ship by midnight] that the sailor would be.
b. It is [$_{AP}$ dead by tomorrow] that the patient would be.
c.*It is [$_{AP}$ honest] that John would be.
d.*It is [$_{PP}$ off the route] that the island would be.

Contrary to Jackendoff's and Stowell's claim, the paradigm above indicates that AP may be focused in cleft sentences (cf. (11a-b)) and that the analysis based on categorial terms would have to add some *ad hoc* devices to capture the distribution of the cleft construction (cf. (11a) vs. (11d) and (11b) vs. (11c)), an undesirable approach that we, of course, do not want to pursue. These considerations, thus, lead us to the speculation, again, that the real generalization might be appropriately expressed in purely semantic terms. In fact, a careful examination of the paradigm above seems to suggest that the phrases that are successfully allowed to occupy the focus position of the cleft sentence are those that denote entity (cf. (9a)) or, more crucially, those that express 'change of state' or PROCESS (cf.(11a-b)).[3]

3. *Though* Attraction

Our semantically based approach which attempts to capture the distribution of certain types of constructions seems to be given further support by the rule of what Culicover (1982) calls *Though* Attraction (TA). This rule moves certain constituents to a position immediately before *though* in subordinate clauses. Thus, (12a) below is related to (12b) by TA.

(12)a. Though John was busy, he finished his homework.
b. Busy though John was, he finished his homework.

Culicover, noting the following contrast, suggests that the phrases that may be preposed in TA are AP and NP, which he says is defined by [-N] in Chomsky's feature system.

(13)a.[$_{AP}$ Expensive] though the house is, we have decided to buy it.
b. [$_{NP}$ Genius] though John is, he can't tie his shoe laces.
c. *[$_{VP}$ Running down the stairs] though John was, they made no attempt at silence.
d.*?[$_{PP}$ In June] though the concert is, we decided to buy the ticket now.

However, there are examples that would conflict with this analysis. Consider, for example, the following sentence.

(14) [$_{PP}$ Off the route] though the island would be, we decided to take a picture of it.

This sentence clearly indicates, contrary to Culicover's claim, that PP as well may be involved in TA, which suggests that this categorial analysis leaves something to be desired.

Furthermore, it seems that AP, which Culicover claims to be allowed to be involved in TA, sometimes may not happily participate in this construction, as the follow-ing example shows.

(15)??[$_{AP}$ Dead by tomorrow] though that patient would be, the doctor will do his best.
cf.??[$_{PP}$ Off the ship] though that sailor would be, I hope to see him on the ship again.

These facts seem to suggest that the approach based on purely categorial selection, again, might be erroneous. Our semantically based approach, on the other hand, seems to be able to handle these recalcitrant behaviors of TA in a unified way: the phrases that may be involved in TA are those that express 'state of affairs' or STATE (cf. (12), (13a-b) and (14)).[4]

4. Seem

In this final section I would like to discuss another motivation for capturing the distribution of certain types of constructions in terms of such semantic notion of 'state of affairs' or STATE. The motivation comes from the distribution of the verb *seem*. Wasow (1977) and Siegel (1971), among others, extensively discuss the nature of the complement following *seem*. The distribution of the complement, according to them, is best expressed in categorial terms, i.e. a typical instance for this context is AP. In fact, not only AP but NP and PP, as is well-known, may occur in that position.

(16)a. Mary seems [$_{AP}$ honest].
b. That island seems [$_{PP}$ off the route].
c. It seemed [$_{NP}$ a misfortune].

What is crucial here is that this kind of purely categorial restriction does not seem to provide a natural answer to the question of where the ungrammaticality of the following sentences, despite their categorial status of AP and PP, comes from.

(17)a.??That sailor seemed [$_{PP}$ off the ship]
b.??That patient seemed [$_{AP}$ dead by tomorrow]

A plausible answer seems to lie in semantic selection of the verb *seem*, i.e. the phrases that may occur in the complement

position of *seem* could be characterized as those that express 'state of affairs' or STATE (cf.(16)), as opposed to those that express 'change of state' or PROCESS (cf. (17)).

5. Concluding Remarks

In this short squib, I have discussed, in a preliminary way, the problem of how to characterize the distributions of certain types of constructions with special attention to the nature of semantic selection and categorial selection. I suggested that a promising answer to this problem lies in semantic selection rather than in categorial selection. This point was discussed with reference to small clauses, cleft sentences, etc. with special attention to such semantic notions as 'state of affairs' or STATE, and 'change of state' or PROCESS. The task before us now seems to be to make explicit exactly what these semantic notions are and to work out the mechanisms that would regulate the correspondence between these semantic and categorial selections, which awaits further research (cf. Endo (in prep) for a proposal along this line).

Appendix

Kitagawa's semantic restrictions on small clauses, as persuasive as it seems to be, does have some problems. Contreras (1987), for instance casts doubt on her semantic explanation for SC on the grounds that this approach cannot provide a natural account for the ungrammaticality of SCs like the following, where SCs do express 'change of state' or PROCESS, and consequently, is wrongly predicted to be grammatical under Kitagawa's assumptions.

(i) *I expected [you an attorney by the end of the year]

It seems to me that a way out of this dilemma, which preserves the merits of Stowell's and Kitagawa's analyses but overcome their difficulty, would be to pursue the possibility of what Chomsky (1985) calls canonical structural realization (CSR), which stipulates that a predicate selects a complement of certain semantic type, which in turn is realized as a category of a certain syntactic type. See Endo (in prep.) for an approach along this line.

Notes

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[1] See also Endo (1985) on this point.

[2] See Adachi (1985) for the discussion of other restrictions on SCs.

[3] See also Nakau (1985) on this point.

[4] I have no explanation at present for the grammatical status of (12a, b).

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